

166-91

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB66

Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Plant *Thelypteris pilosa* var. *alabamensis* (Alabama streak-sorus fern)**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

SUMMARY: The Service proposes to list a plant, *Thelypteris pilosa* var. *alabamensis* (Alabama streak-sorus fern), as a threatened species under the authority contained in the Endangered Species Act (Act) of 1973, as amended. *Thelypteris pilosa* var. *alabamensis* is currently believed to be limited to a 3.25 mile stretch along the Sipsey Fork, a tributary of the Black Warrior River in Winston County, Alabama. In this area, 15 separate localities have been documented. This species is extremely vulnerable due to its limited distribution. Populations have been impacted or are potentially threatened by impoundments, bridge construction, vandalism and incidental damage from recreational use of habitats, and timbering of forest upslope. This proposed rule, if made final, will extend the Act's protection to *Thelypteris pilosa* var. *alabamensis*. The Service seeks data and comments from the public on this proposed rule.

DATES: Comments from all interested parties must be received by January 30, 1992. Public hearing requests must be received by January 13, 1992.

ADDRESSES: Comments and materials concerning this proposal should be sent to the U.S. Fish and Wildlife Service, 6578 Dogwood View Parkway, Suite A, Jackson, Mississippi 39213. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Cary Norquist at the above address or telephone (601/965-4900 or FTS 490-4900).

SUPPLEMENTARY INFORMATION:**Background**

Thelypteris pilosa var. *alabamensis* is a small, evergreen fern with linear-lanceolate fronds 10 to 20 centimeters (cm) (4 to 8 inches) long. The fronds appear clustered, arising from short,

slender rhizomes covered with reddish-brown scales. The stipe portion of the frond ("petiole") is slender, erect to ascending, 1 to 3 cm (0.4 to 1 inch) long, and covered with long hairs. The blade is typically 3 to 10 cm (1 to 4 inches) long, 1.5 to 3 cm (0.5 to 1 inch) broad, and divided once into many ovate to suborbicular leaf segments (pinnae). The sori (groups of spore-producing reproductive structures) occur on the underside of the blades and are linear in shape. This is the only southeastern species of *Thelypteris* which lacks indusia (thin membrane that covers the sori) (Kral 1983, Mickel 1989).

This species was first described by Crawford (1951) based on material that he and A.M. Harvill collected in 1949 along the Sipsey Fork of the Black Warrior River (Winston County, Alabama). Two specimens from the Mexican States of Chihuahua and Sonora were cited in Crawford's description as belonging to this variety. These specimens, and other *Thelypteris pilosa* specimens from Mexico, have been recently examined by Mickel (1989) and Alan Smith (*Thelypteris* authority, University of California at Berkley, pers. comm. 1990). They concluded that the Alabama plants are distinct (at least at the varietal level) from the Mexican material, including those specimens from Chihuahua and Sonora, cited in the original description by Crawford (1951). *Thelypteris pilosa* var. *alabamensis* differs from the other varieties of *Thelypteris pilosa* (all restricted to Mexico) by its overall smaller size, narrower blades, rounded (versus acuminate) pinna and pinna lobe tips, and the frequent free lobe at the base of the basal pinnae (Lellinger 1985, Mickel 1989). Studies are currently underway to determine if these differences warrant elevating *Thelypteris pilosa* var. *alabamensis* to the species level (Mickel 1989).

In 1960, the type locality was destroyed by bridge construction and subsequent flooding in association with the completion of Lewis Smith Dam, located several miles downstream. The species was presumed to be extinct (Dean 1969) until 1972, when Alabama naturalist L. Smith rediscovered it approximately eight miles upstream (Short and Freeman 1978). Additional colonies were located in this general area in 1975 and 1976 by Short and Freeman (1978). Surveys to locate additional populations and delineate its range along the Sipsey Fork were conducted by the Alabama Natural Heritage Program in 1990 (Gunn 1991). Currently, the species' known range is confined to an approximately 3.25 mile

stretch along the Sipsey Fork, a tributary of the Black Warrior River in Winston County, Alabama. In this area, the Heritage Program has documented 15 localities. Approximately 50 percent of the sites support small populations (a dozen or fewer plants); three have moderate populations (20 to 75 plants); three have large populations (several hundred); and two have extensive populations (ca. 1,500 and 6,000) (Gunn 1991). A mid-1970's report of this species along the Sipsey Fork near the Lawrence and Winston County line (Short and Freeman 1978) has not been relocated, despite repeated attempts (Gunn 1991).

Thelypteris pilosa var. *alabamensis* takes root in crevices or on rough rock surfaces of Pottsville sandstone along the Sipsey Fork (Gunn 1991). Plants typically occur on "ceilings" of sandstone overhangs (rockhouses), on ledges beneath overhangs, and on exposed cliff faces. These bluffs and overhangs are usually directly above the stream; however, some are located a short distance away from the river. Locations vary in slope aspect and shade coverage, from completely shaded to partially sunny on exposed bluff faces. The sites are kept moist by natural water seepage over the sandstone from up-slope runoff. Water vapor from the stream increases the humidity for those sites directly above the water or nearby. *Thelypteris pilosa* var. *alabamensis* grows among various bryophytes and is often associated with climbing hydrangea (*Decumaria barbara*), *Thalictrum clavatum*, *Heuchera parviflora*, and the ferns *Osmunda cinnamomea*, *O. regalis*, and most notably, the Appalachian bristle fern (*Trichomanes boschianum*). Surrounding forest is of the hemlock-hardwood type and includes various cove-type hardwoods (Gunn 1991, Kral 1983).

All sites are within the boundaries of the Bankhead National Forest and the majority occur on U.S. Forest Service land. Several localities are on private inholdings.

Federal actions involving *Thelypteris pilosa* var. *alabamensis* began with Section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as petition within the context

of section 4(c)(2), now section 4(b)(3)(A), of the Act and of its intention thereby to review the status of those plants. On June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to Section 4 of the Act. *Thelypteris pilosa* var. *alabamensis* was included in the Smithsonian petition and the 1976 proposal. General comments received in relation to the 1976 proposal were summarized in an April 26, 1976 **Federal Register** publication (43 FR 17909).

The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to proposals already over 2 years old. In the December 10, 1979, **Federal Register** (44 FR 70796), the Service published a notice of withdrawal of the June 16, 1976, proposal, along with four other proposals that had expired. *Thelypteris pilosa* var. *alabamensis* was included as a category 2 species in a revised list of plants under review for threatened or endangered classification published in the December 15, 1980, **Federal Register** (45 FR 82480). This species was maintained in category 2 in the Service's updated plant notices of September 27, 1985 (50 FR 39526) and February 21, 1990 (55 FR 6184). Category 2 species are those for which listing as endangered or threatened species may be warranted but for which substantial data on biological vulnerability and threats are not currently known or on file to support a proposed rule. The Service funded a survey in 1990 to determine the status of this species in Alabama. Additional water courses were surveyed; however, no populations were located outside an approximately 3 mile segment of the Sipsey Fork (Black Warrior River). A final report was received and approved by the Service in the spring of 1991. This report (Gunn 1991) and other information support the proposed listing. The data demonstrate a limited distribution and potential threats to the species.

Section 4(b)(3) of the Endangered Species Act, as amended in 1982, requires the Secretary to make certain findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982 be treated as having been newly submitted on that date. This was the case for *Thelypteris pilosa* var. *alabamensis* because of the acceptance of the 1975 Smithsonian report as a petition. In October of 1983, and succeeding years, the Service found that

the petitioned listing of *Thelypteris pilosa* var. *alabamensis* was warranted, but that listing this species was precluded due to other higher priority listing actions and additional data were being gathered. Publication of the present proposal constitutes the final 1-year finding that is required.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(a)(1). These factors and their application to *Thelypteris pilosa* var. *alabamensis* (Mart. & Gal.) Crawford are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range.

The type locality, which is approximately five miles downstream of extant populations, was destroyed in 1960. The cliffs, where the plants grew, were leveled when a new bridge was constructed. The area was subsequently flooded with the completion of Lewis Smith Dam several miles downstream (Short and Freeman 1978, Burks *in litt.*). The impoundment inundated suitable habitat, and perhaps plants, upstream and downstream of the type locality (Gunn 1991). Currently, plants are located on both sides of a highway bridge over the Sipsey Fork (upstream of the reservoir's influence). Plants may have been destroyed by this bridge construction (Gunn 1991). Future road or dam construction along the upper reach of the Sipsey Fork poses a potential threat to extant populations.

Logging of woodlands above the occupied sites could adversely affect the microhabitat needed by the fern. As noted in the "Background" section, the species is dependent on up-slope runoff and seepage to maintain the substrate moisture. Heavy timbering or clear-cutting could alter the area's hydrology by interrupting this natural seepage. Additionally, the loss of the canopy would increase ambient light and lower the humidity. These effects would dehydrate the habitat and could be detrimental (Gunn 1991, Kral 1983, Currie *in litt.*).

Overhangs or rockhouses are habitat for about 50 percent of the known populations of *Thelypteris pilosa* var. *alabamensis*. These areas are

frequented by hikers, fishermen, and campers and are subject to vandalism. Two of the larger populations occur in rockhouses which are often used by humans, as evidenced by numerous footprints, abundant litter, and old campfires. Intentional or incidental damage caused by hikers and campers, in addition to the heat and smoke from campfires, threatens these populations (Gunn 1991).

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

This species is not known to be in commercial trade. Over-collecting for any purpose would adversely impact this species due to its rarity and the small number of individuals at several sites. The fern's limited distribution makes it vulnerable to collectors and vandals.

C. Disease or Predation

No species specific diseases or predators have been identified. However, as in Factor B, disease or predation could have a serious adverse impact on the small and fragmented populations.

D. The Inadequacy of Existing Regulatory Mechanisms

This species is considered endangered by the Alabama Natural Heritage Program (Gunn pers. comm. 1991) but receives no protection from State legislation. All sites are located along the portion of the Sipsey Fork of the Black Warrior River that has been assigned "Wild and Scenic River" status by 1988 Federal legislation. Those sites on Forest Service land are designated "recreational status" which requires certain management actions by Federal landholders. The managing agency must develop management plans for the wild and scenic corridor, including management recommendations for *Thelypteris pilosa* var. *alabamensis*, which is identified as a sensitive species for Bankhead National Forest (BNF). Currently, no management plan or recommended action, for either the river or the fern, has been developed by the U.S. Forest Service (Gunn 1991). As a result, no formal protection is afforded to sites on BNF. Four (possibly six) of the sites are on private property where there is no protection.

E. Other Natural or Manmade Factors Affecting its Continued Existence

The greatest threat to this species is its extreme vulnerability due to its range and small number of plants at many of the sites (see "Background"). A single natural or anthropogenic disturbance

could seriously reduce the population size and affect the species' viability. Catastrophic flooding, through the narrow gorge, could possibly scour all the occupied sites to such a degree that the size of the population is significantly reduced. Sites near the water have few individuals (one to three plants), probably because of scouring from seasonal (as opposed to catastrophic) flooding. Severe drought would decrease the substrate moisture and be detrimental to this species. A local drought in 1990 appeared to kill individual plants at several localities (Gunn 1991).

As a natural erosional process, sandstone overhangs and bluffs periodically erode small and large sections. A site could be completely eliminated (including one with a large number of plants) if one such incident occurred (Gunn 1991).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Thelypteris pilosa* var. *alabamensis* as threatened. Threatened status seems appropriate since this species is not in imminent danger of extinction. However, this species is extremely vulnerable due to its restricted range and is likely to become endangered in the foreseeable future if protective measures are not taken. Critical habitat is not being designated for reasons discussed in the following section.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species is proposed to be endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for this species. Publication of critical habitat maps would increase public interest and possibly lead to additional threats to this species from collecting and vandalism. This species occurs at a limited number of sites and several are easily accessible and frequented by hikers and campers. Taking is an activity difficult to enforce against and only regulated by the Act with respect to plants in cases of (1) removal and reduction to possession of endangered plants from lands under Federal jurisdiction, or their malicious damage or destruction on such lands; and (2) removal, cutting, digging up, or damaging or destroying in knowing

violation of any State law or regulation, including State criminal trespass law. Publication of critical habitat descriptions and maps in the **Federal Register** and local newspapers would make *Thelypteris pilosa* var. *alabamensis* more vulnerable and increase enforcement problems. The principal parties involved, including State/Federal agencies, have been notified of the location and importance of protecting this species' habitat. Protection of this species' habitat will be addressed through the recovery process and through the section 7 jeopardy standard. Therefore, it would not now be prudent to determine critical habitat for *Thelypteris pilosa* var. *alabamensis*.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

All sites are located within the boundary for the Bankhead National Forest and the majority of the sites are

on U.S. Forest Service lands. The Environmental Protection Agency would consider this species relative to pesticide (herbicide) registration. Currently, no activities to be authorized, funded, or carried out by Federal agencies are known to exist that would affect *Thelypteris pilosa* var. *alabamensis*.

The Act and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general prohibitions and exceptions that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 40 CFR 17.71, would apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. In addition, for endangered plants, the 1988 amendments (Pub. L. 100-478) to the Act prohibit the malicious damage or destruction on Federal lands and the removal, cutting, digging up, or damaging or destroying of endangered plants in knowing violation of any State law or regulation, including State criminal trespass law. Section 4(d) of the Act allows for the provision of such protection to threatened species through regulations. The protection may apply to threatened plants once revised regulations are promulgated. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened and endangered species under certain circumstances.

It is anticipated that few trade permits would ever be sought or issued because the species is not common in cultivation or in the wild. Requests for copies of the regulations on listed plants and inquiries regarding prohibitions and permits may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 432, Arlington, Virginia 22203 (703/358-2104).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this

proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(e) Additional information concerning the range, distribution, and population size of this species;

(4) Current or planned activities in the subject area and their possible impacts on this species.

Final promulgation of the regulation on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to Complex Field Supervisor (see ADDRESSES section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

- Crawford, L.C. 1951. A new fern for the United States. *Amer. Fern. Journ.* 41:15-20.
- Dean, B.E. 1969. *Ferns of Alabama*. 2nd ed. Southern University Press, Birmingham, AL. 222 pp.
- Gunn, S.C. 1991. An update on the status of *Thelypteris pilosa* var. *alabamensis*. Report to the U.S. Fish and Wildlife Service, Jackson, Mississippi. 18 pp.
- Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. USDA, U.S. Forest Service, Tech. Publ. R8-TP2. 1305 pp.
- Lellinger, D.B. 1985. *A field manual of the ferns and fern-allies of the United States and Canada*. Smithsonian Inst. Press, Washington, D.C. 389 pp.

Mickel, J.T. 1989. Current status of *Thelypteris pilosa* var. *alabamensis*. Unpubl. man. 5 pp.

Short, J.W., and J.D. Freeman. 1978. Rediscovery distribution and phytogeographic affinities of *Leptogramma pilosa* in Alabama. Amer. Fern. Journ. 68:1-2.

Author

The primary author of this proposed rule is Cary Norquist (see **ADDRESSES** section) 601/965-4900 or FTS 490-4900.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding, in alphabetical order the family Thelypteridaceae, and the following entry, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

Scientific name	Species		Historic range	Status	When listed	Critical habitat	Special rules
	Common name						
Thelypteridaceae—Marsh fern family:							
<i>Thelypteris pilosa</i> var. <i>alabamensis</i> (= <i>Leptogramma pilosa</i> var. <i>alabamensis</i>).	Alabama streak-sorus fern.....		U.S.A. (AL).....	T.		NA	NA

Dated: October 24, 1991.

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